



ATOMS & ELEMENTS

1. What is the charge of a proton?
 - +1
 - 1
 - 0
 - +2

2. Which particle is found in the nucleus of an atom along with protons?
 - Electron
 - Neutron
 - Positron
 - Meson

3. What do you call an atom with the same number of protons but a different number of neutrons?
 - Cation
 - Anion
 - Isotope
 - Isoform

4. What does the atomic number of an element represent?
 - The number of neutrons
 - The number of protons
 - The number of electrons in a neutral atom
 - The total number of nucleons

5. Which of these is NOT a subatomic particle?
- Proton
 - Neutron
 - Electron
 - Photon
6. What determines the chemical behavior of an atom?
- Number of neutrons
 - Number of protons
 - Number of electrons
 - Number of isotopes
7. An ion with more protons than electrons is called what?
- Anion
 - Cation
 - Neutral atom
 - Isotope
8. What does the term 'average atomic mass' refer to?
- The mass of the heaviest isotope
 - The mass of an electron cloud
 - The weighted average mass of all isotopes
 - The mass of a single proton
9. In the Bohr model of the atom, what do the 'orbits' or 'shells' represent?
- Paths of neutrons
 - Energy levels of electrons
 - Trajectories of protons
 - Potential barriers

10. What does the electron configuration of an element indicate?
- The distribution of protons
 - The spin of subatomic particles
 - The arrangement of electrons in shells
 - The stability of the nucleus
11. How does an atom become a positive ion?
- By gaining protons
 - By gaining electrons
 - By losing protons
 - By losing electrons
12. What is an atomic spectrum?
- A rainbow produced by a prism
 - A graph of nuclear forces
 - The wavelengths of light an atom can absorb or emit
 - The range of mass numbers for an element's isotopes
13. What evidence supports the existence of energy levels in atoms?
- Continuous emission spectra
 - Line emission spectra
 - X-ray diffraction patterns
 - Uniform absorption spectra
14. What happens when an electron transitions from a higher to a lower energy level?
- The atom loses a proton
 - The atom absorbs a photon
 - The atom emits a photon
 - The nucleus becomes unstable

15. Which of the following is true about isotopes of the same element?

- They have different atomic numbers
- They have different chemical properties
- They have different numbers of neutrons
- They have different positions on the periodic table

16. What are valence electrons?

- Electrons closest to the nucleus
- Electrons in the innermost shell
- Electrons in the outermost shell
- Free electrons not associated with any atom

17. Which atomic particles are involved in chemical bonding?

- Neutrons
- Protons
- Electrons
- Nucleons